

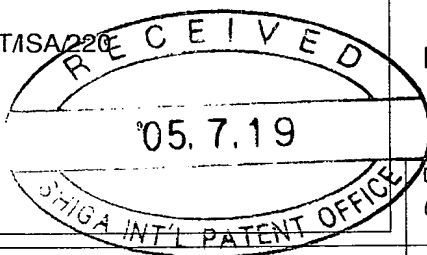
PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/008508

International filing date (day/month/year)
10.06.2004

Priority date (day/month/year)
13.06.2003

International Patent Classification (IPC) or both national classification and IPC
G03F7/32

Applicant
TOKYO OHKA KOGYO CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

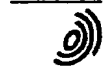
If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Heywood, C

Telephone No. +31 70 340-3666



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/JP2004/008508

IAP13 Rec'd PCT/PTO 09 DEC 2005

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/008508

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made, in this communication, to US 5 985 525 A (D1)

Novelty

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 3, 4 is not new in the sense of Article 33(2) PCT.

Claims 1, 3, 4

The document US 5 985 525 A (D1) discloses (examples 1, 16):
a(n aqueous) developer composition for resists, comprising

an organic quaternary ammonium base as a main component; namely tetramethylammonium hydroxide (column 1, line 55-60);
said developer composition further comprising an anionic surfactant represented by general formula (I) of the present application, where R^1 is dodecyl, R^2 is H, R^3 and R^4 are ammonium sulfonate and R^5 is H; and
a SO_4^{2-} content of 300 ppm (column 1, line 55-60; i.e. ammonium sulfate content of 0.03% by weight)

The halogen ion may reasonably be expected to be well below 1000 ppm, since the composition will employ deionized water.

Example 16, in column 8, describes a composition as above, but where the sulfate content is 800 ppm.

Claim 1 indicates that the ammonium sulfate salt may be present in an amount 0.01-0.20% by weight.

Document D1 further describes a method for formation of a resist pattern (example 1),

comprising applying a resist composition on a substrate to form a resist layer, prebaking the resist layer, selectively exposing the prebaked resist layer to light, and alkali-developing the exposed resist layer with the developer composition as above to form a resist pattern.

Inventive step

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 2 does not involve an inventive step in the sense of Article 33(3) PCT.

Dependent claim 2 does not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to inventive step, the reasons being as follows:
Dependent claim 2 refers to a feature conventional to the skilled man.

Re Item VIII

Certain observations on the international application

It is clear from the examples (and the description e.g. page 5, lines 4-5) that the following feature is essential to the definition of the invention: the developer composition is **aqueous**.

Since independent claim 1 does not contain this feature it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

Therefore independent claim 1 has been interpreted as an **aqueous** developer composition.